New England Bioassay
A Division of GZA

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

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NEW ENGLAND BIOASSAY A DIVISION OF GZA
CHRONIC AQUATIC TOXICITY TEST REPORT

Permitee: Patriot Beverages NPDES # MA0004936
Report submitted to: 20 Harvard Road
Littleton, MA 01460
Sample ID: Outfall 001
Test Month/Year: 07/2018
NEB Proj # 05.0044697.00

Test Type / Method: *Pimephales promelas* Modified Chronic Static-Renewal Freshwater Test Method 1000.0; EPA 821-R-02-013

Effluent Sample Dates: #1 7/8-9/18 #2 7/10-11/18 #3 7/12-13/18

Test Start Date: 7/9/18

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results				
Species	LC50	A-NOEC	Permit Limit	Pass / Fail
Pimephales promelas	>100%	100%	≥ 100%	Pass

Chronic Test Results					
Species	C-NOEC	C-LOEC	IC25	Permit Limit	Pass/Fail
Pimephales promelas	100%	>100%	>100%	≥ 91%	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

Test Report Certification

Permittee name:	Patriot Beverages	Permit number:	MA0004936
Client sample ID:	Outfall 001	Test Start Date:	7/9/18

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: _____ (Date)

_____ Authorized Signature

_____ Print or Type Name and Title

_____ Print or Type the Permittee's Name

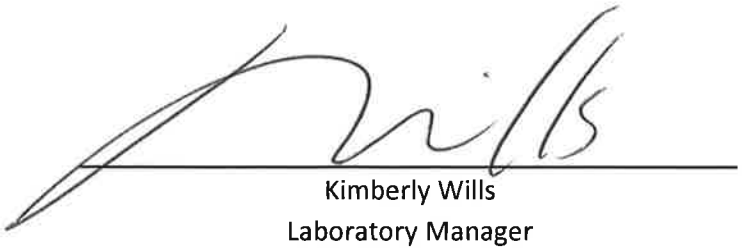
MA0004936
Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 8/2/18 (Date)



Kimberly Wills
Laboratory Manager
New England Bioassay a division of GZA

General Test Conditions

Permittee name: Patriot Beverages Permit number: MA0004936

Client sample ID: Outfall 001 Test Start Date: 7/9/18

Sample Collection Information

Effluent #1 Dates/Times: 7/8-9/18 @ 0700-0630 Receiving Water #1 Date/Time: 7/9/18 @ 0630

Effluent #2 Dates/Times: 7/10-11/18 @ 0700-0700 Receiving Water #2 Date/Time: 7/11/18 @ 0730

Effluent #3 Dates/Times: 7/12-13/18 @ 0700-0645 Receiving Water #3 Date/Time: 7/13/18 @ 0630

Were a minimum of three samples collected? Yes ☑ No ☐ *(see note below)

Were samples used within the first 36 hours of collection? Yes ☑ No ☐ * (see note below)

* sample collection note:

Test Conditions:

Permittee's Receiving Water: Reedy Meadow Brook

- Dilution water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO3)
- Control water: Receiving water collected at a point immediately upstream of or away from the discharge

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 50%, 91%, 100%

Was effluent salinity adjusted? No ☑ Yes ☐ with Instant Ocean sea salts to _____ ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Dechlorination was not required

Aeration: Did Dissolved Oxygen levels fall below 40% saturation? Yes ☐ No ☑

Test Aerated at <100 bubbles/minute as of: _____

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Fathead minnows

Date: 7/2/18

Toxicant: Sodium chloride

Dilution Water: NEB Soft Water

Organism Source: NEB

Growth IC25: 1.51 g/L

Results within range Yes ☑ No ☐

Pimephales promelas Test Results

Permittee name: Patriot Beverages Permit number: MA0004936

Client sample ID: Outfall 001 Test Dates: 7/9/18 - 7/16/18

Test Acceptability Criteria

Lab Diluent Survival:	100 %	Mean Lab Diluent Growth:	0.42 mg
Brook Control Survival:	95 %	Mean Brook Control Growth:	0.43 mg
Thiosulfate Control Survival:	NA %	Mean Thiosulfate Control Growth:	NA mg

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50	≥ 100%	>100%	Pass
	48 hr NOEC		100%	
	TUa			
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Growth C-NOEC		100%	
	Growth C-LOEC		>100%	
	Growth IC25		>100%	
	Growth IC50		>100%	
	Reportable C-NOEC	≥ 91%	100%	Pass
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc			

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

Growth PMSD: 8.81% Upper & Lower EPA bounds: 12 - 30% ☑ Low ☐ Within bounds ☐ High

☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)

☐ The PMSD falls within the upper (30%) and lower (12%) bounds. Results are reportable.

☑ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.

- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☑ No statistically significant reductions were observed in this test.

Pimephales promelas Test Results

Permittee name: Patriot Beverages Permit number: MA0004936

Client sample ID: Outfall 001 Test Dates: 7/9/18 - 7/16/18

Concentration - Response Evaluation

Survival: #11 No concentration-response curve: no mortality observed at any concentration.

Growth: #13 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed equal to or better than the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Growth	
X	X	Results are reliable and reportable
		Results are anomalous (see explanation below)
		Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

TEST METHODS

Pimephales promelas

Test type:	Modified Chronic Static Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-013 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms"
Test Method:	*Pimephales promelas* Survival and Growth Test - EPA 1000.0
Temperature:	25 ˚C ± 1˚C (Temperatures should not deviate by more than 3˚C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m2/s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	600 mL (500 mL is recommended minimum)
Test solution volume:	250 mL (recommended minimum)
Renewal of Test Solutions:	Daily (required)
Age of Test Organisms:	Newly hatched larvae less than 24 hours old (required)
Number of Neonates Per Test Chamber:	10 (recommended)
Number of Replicate Test Chambers Per Treatment:	4 (required minimum)
Number of Neonates Per Test Concentration:	40 (required minimum)
Feeding Regime:	0.15 g twice daily (in the morning prior to renewal and at the end of the work day following renewal) Sufficient nauplii are added to provide an excess. (recommended)
Cleaning:	Siphoned daily, immediately before test solution renewal (required)
Aeration:	None, unless DO concentration falls below 4.0 mg/L, at which point the rate should not exceed 100 bubbles/minute. (recommended)
Test Duration:	7 days (required)
Endpoints:	Survival and growth (weight) (required)
Test Acceptability:	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg (required)
Sampling Requirements:	Minimum of three samples with a maximum holding time of 36 hours before

first use. (required)

Sample volume required: 2.5 L/Day (recommended)

PIMEPHALES PROMELAS
DATASHEETS & STATISTICAL ANALYSIS

NEW ENGLAND BIOASSAY TOXICITY DATA FORM
CHRONIC COVER SHEET

CLIENT:	Patriot Beverages	*P.promelas* TEST ID #	18-966
ADDRESS:	20 Harvard Road	CHAIN OF CUSTODY #	C38-2609/10
	Littleton, MA 01460	NEB PROJECT #	05.0044697.00
PERMITTEE:	Patriot Beverages	SAMPLE ID:	Outfall 001
PERMIT NUMBER:	MA0004936		
DILUTION WATER:	Soft Synthetic Lab Water		

VERTEBRATES

TEST SET-UP TECHNICIAN:	CD
TEST SPECIES:	*Pimephales promelas*
NEB LOT #	Pp18(7-9)
AGE:	< 24 hours
TEST SOLUTION VOLUME (mls):	400
ORGANISMS PER TEST CHAMBER:	10
ORGANISMS PER CONCENTRATION:	40

LABORATORY CONTROL WATER (SRCF)

Lot Number	Hardness mg/L	Alkalinity mg/L
C38-S014	46	35

	DATE	TIME
TEST START:	7/9/18	1419
TEST END:	7/16/18	1420

COMMENTS: _____

REVIEWED BY: _____ DATE: 8/2/18

NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Patriot Beverages, 20 Harvard Road, Littleton MA 01460						
NEB PROJECT NUMBER:	05.0044697.00	TEST NUMBER:	18-966	COC #	C38-2609/10		
TEST ORGANISM:	*Pimephales promelas*	AGE:	<24 hours	Lot #	C38-S014		
START DATE:	7/9/18	TIME:	1419	END DATE:	7/16/18	TIME:	1420

Effluent Concentration	Replicate Number	Number of Survivors								
		Day								
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	CD	CD	DD	MM	CD	MM	MM	CD	
NEB Lab Synthetic Diluent	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
Reedy Meadow Brook Control	A	10	10	9	9	9	9	9	9	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	9	
	D	10	10	10	10	10	10	10	10	
6.25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
12.5%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
50%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
91%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	

D.O. concentration fell below 4.0 mg/L _____

All test solutions were aerated at <100 bubbles/minute as of _____

NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Patriot Beverages, 20 Harvard Road, Littleton MA 01460				
NEB PROJECT NUMBER:	05.0044697.00	TEST NUMBER:	18-966	COC #	C38-2609/10
TEST ORGANISM:	*Pimephales promelas*	AGE:	<24 hours	Lot #	C38-S014
START DATE:	7/9/18	TIME: 1419	END DATE:	7/16/18	TIME: 1420

Effluent Concentration	Replicate Number	Number of Survivors								
		Day								
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	CD	CD	DD	MM	CD	MM	MM	CD	
100%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
	A									
	B									
	C									
	D									
	A									
	B									
	C									
	D									
	A									
	B									
	C									
	D									
	A									
	B									
	C									
	D									
	A									
	B									
	C									
	D									
	A									
	B									
	C									
	D									

NEW ENGLAND BIOASSAY WEIGHT DATA FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	Patriot Beverages, 20 Harvard Road, Littleton MA 01460		
NEB PROJECT #	05.0044697.00	NEB TEST NUMBER:	18-966
TEST START DATE	7/9/18	WEIGHING DATE:	7/25/18
TEST END DATE	7/16/18		
DRYING TEMPERATURE (°C)	100 ± 4	DRYING TIME:	minimum 6 hours
ANALYST-INITIAL WEIGHTS	KO	ANALYST-FINAL WEIGHTS	KO

Effluent Concentration	Replicate Number	A Weight of boat (mg)	B Dry Weight: Foil and Larvae (mg)
NEB Lab Synthetic Diluent	A	871.95	876.42
	B	867.84	871.72
	C	864.47	868.83
	D	869.16	873.32
Reedy Meadow Brook Control	A	859.50	863.54
	B	878.83	883.41
	C	855.90	859.96
	D	869.29	874.00
6.25%	A	867.33	871.83
	B	856.88	861.10
	C	870.99	875.38
	D	872.26	876.61
12.5%	A	873.68	878.28
	B	877.11	881.34
	C	860.61	865.15
	D	859.00	863.91
25%	A	853.08	858.25
	B	868.31	872.84
	C	869.53	874.26
	D	878.78	883.52
50%	A	863.62	868.93
	B	865.09	869.91
	C	862.35	867.66
	D	870.31	875.40
91%	A	873.41	877.62
	B	857.45	861.63
	C	874.18	878.77
	D	867.63	871.88
100%	A	874.20	879.07
	B	856.99	861.83
	C	865.68	870.51
	D	866.24	871.15

Concentration	Rep	Final Weight (mg)	Initial Weight (mg)	Total Weight (mg)	Average per fish (mg)	Mean fish weight (mg)	Standard Deviation
NEB Lab Synthetic Diluent	1	876.42	871.95	4.47	0.447	0.4218	0.025902059
	2	871.72	867.84	3.88	0.388		
	3	868.83	864.47	4.36	0.436		
	4	873.32	869.16	4.16	0.416		
Reedy Meadow Brook Control	1	863.54	859.50	4.04	0.404	0.4348	0.034769479
	2	883.41	878.83	4.58	0.458		
	3	859.96	855.90	4.06	0.406		
	4	874.00	869.29	4.71	0.471		
6.25%	1	871.83	867.33	4.50	0.450	0.4365	0.01156143
	2	861.10	856.88	4.22	0.422		
	3	875.38	870.99	4.39	0.439		
	4	876.61	872.26	4.35	0.435		
12.5%	1	878.28	873.68	4.60	0.460	0.4570	0.02786874
	2	881.34	877.11	4.23	0.423		
	3	865.15	860.61	4.54	0.454		
	4	863.91	859.00	4.91	0.491		
25%	1	858.25	853.08	5.17	0.517	0.4793	0.026961392
	2	872.84	868.31	4.53	0.453		
	3	874.26	869.53	4.73	0.473		
	4	883.52	878.78	4.74	0.474		
50%	1	868.93	863.62	5.31	0.531	0.5132	0.023271943
	2	869.91	865.09	4.82	0.482		
	3	867.66	862.35	5.31	0.531		
	4	875.40	870.31	5.09	0.509		
91%	1	877.62	873.41	4.21	0.421	0.4308	0.019050372
	2	861.63	857.45	4.18	0.418		
	3	878.77	874.18	4.59	0.459		
	4	871.88	867.63	4.25	0.425		
100%	1	879.07	874.20	4.87	0.487	0.4863	0.003593976
	2	861.83	856.99	4.84	0.484		
	3	870.51	865.68	4.83	0.483		
	4	871.15	866.24	4.91	0.491		

Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	02-3450-2880	**Endpoint:**	2d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Batch ID:	12-6100-1644	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	09 Jul-18 14:19	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Receiving Water
Ending Date:	16 Jul-18 14:20	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture **Age:** <24
Sample ID:	18-6075-9336	**Code:**	6EE8EF28	**Project:**	
Sample Date:	09 Jul-18 06:30	**Material:**	Industrial Effluent	**Source:**	Patriot Beverages (MA0004936)
Receipt Date:	09 Jul-18 13:15	**CAS (PC):**		**Station:**	
Sample Age:	8h	**Client:**	Patriot Beverages		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	769752	200	Yes	Two-Point Interpolation

Point Estimates

Level	gm/L	95% LCL	95% UCL
LC50	>100	n/a	n/a

2d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-gm/L	Code	Count	Mean	Min	Max	Std Dev	CV%	%Effect	A/B	Mean	%Effect
0	D	4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
6.25		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
12.5		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
25		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
50		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
91		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
100		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%

2d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
91		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

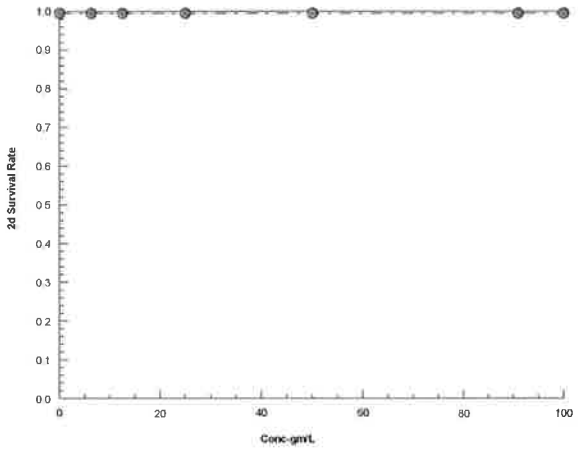
2d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
91		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	02-3450-2880	**Endpoint:**	2d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	07-3328-8392	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Batch ID:	12-6100-1644	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	09 Jul-18 14:19	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Receiving Water
Ending Date:	16 Jul-18 14:20	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture **Age:** <24
Sample ID:	18-6075-9336	**Code:**	6EE8EF28	**Project:**	
Sample Date:	09 Jul-18 06:30	**Material:**	Industrial Effluent	**Source:**	Patriot Beverages (MA0004936)
Receipt Date:	09 Jul-18 13:15	**CAS (PC):**		**Station:**	
Sample Age:	8h	**Client:**	Patriot Beverages		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	1321621	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.8	>>	Yes	Passes Criteria

Point Estimates

Level	gm/L	95% LCL	95% UCL
LC50	>100	n/a	n/a

7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-gm/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**A/B**	**Mean**	**%Effect**
0	D	4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
6.25		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
12.5		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
25		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
50		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
91		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%
100		4	1.0000	1.0000	1.0000	0.0000	0.00%	0.0%	40/40	1	0.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
91		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

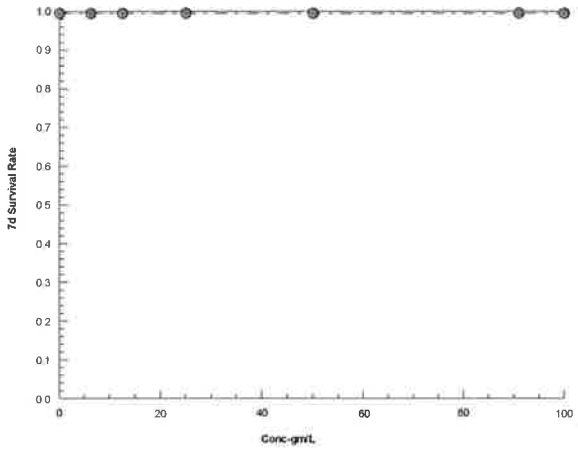
7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
91		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Fathead Minnow 7-d Larval Survival and Growth Test | **New England Bioassay**

Analysis ID:	07-3328-8392	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	09-2268-1829	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1
Batch ID:	12-6100-1644	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	09 Jul-18 14:19	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Receiving Water
Ending Date:	16 Jul-18 14:20	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture **Age:** <24
Sample ID:	18-6075-9336	**Code:**	6EE8EF28	**Project:**	
Sample Date:	09 Jul-18 06:30	**Material:**	Industrial Effluent	**Source:**	Patriot Beverages (MA0004936)
Receipt Date:	09 Jul-18 13:15	**CAS (PC):**		**Station:**	
Sample Age:	8h	**Client:**	Patriot Beverages		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Angular (Corrected)	C > T	100	>100	n/a	

Steel Many-One Rank Sum Test

Control	vs	Conc-gm/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	18	10	1	6	Asymp	0.8571	Non-Significant Effect
		12.5	18	10	1	6	Asymp	0.8571	Non-Significant Effect
		25	18	10	1	6	Asymp	0.8571	Non-Significant Effect
		50	18	10	1	6	Asymp	0.8571	Non-Significant Effect
		91	18	10	1	6	Asymp	0.8571	Non-Significant Effect
		100	18	10	1	6	Asymp	0.8571	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	1	0.8	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	6	65540	<1.0E-37	Significant Effect
Error	0	0	21			
Total	0		27			

7d Survival Rate Summary

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
91		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
6.25		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
12.5		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
25		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
50		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
91		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%
100		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.00%	0.00%

Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	09-2268-1829	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.4
Analyzed:	20 Jul-18 12:50	**Analysis:**	Nonparametric-Control vs Treatments	**Status Level:**	1

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
91		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

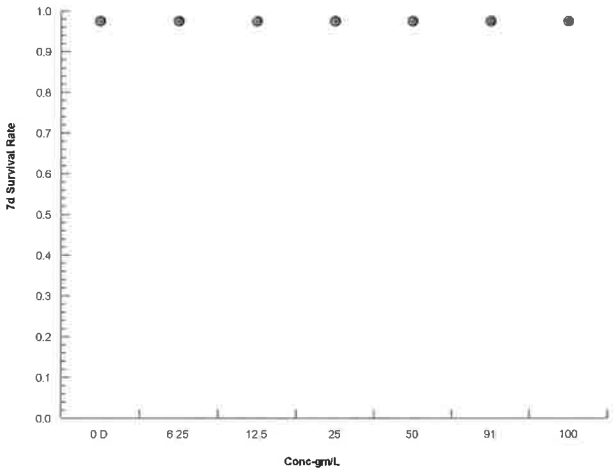
Angular (Corrected) Transformed Detail

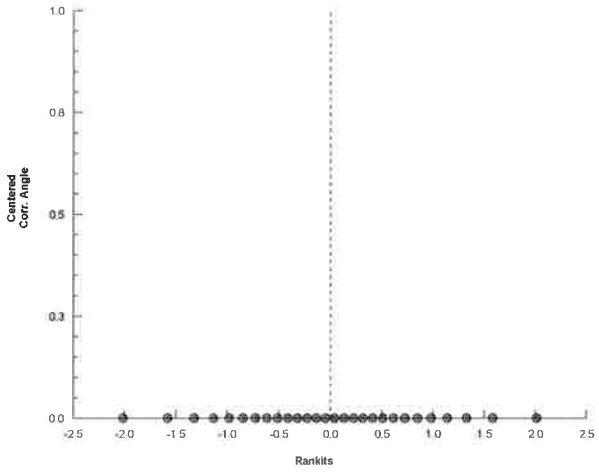
Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.412	1.412	1.412	1.412
6.25		1.412	1.412	1.412	1.412
12.5		1.412	1.412	1.412	1.412
25		1.412	1.412	1.412	1.412
50		1.412	1.412	1.412	1.412
91		1.412	1.412	1.412	1.412
100		1.412	1.412	1.412	1.412

7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
91		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	07-5931-5340	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	25 Jul-18 16:04	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1
Batch ID:	12-6100-1644	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	09 Jul-18 14:19	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Receiving Water
Ending Date:	16 Jul-18 14:20	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture **Age:** <24
Sample ID:	18-6075-9336	**Code:**	6EE8EF28	**Project:**	
Sample Date:	09 Jul-18 06:30	**Material:**	Industrial Effluent	**Source:**	Patriot Beverages (MA0004936)
Receipt Date:	09 Jul-18 13:15	**CAS (PC):**		**Station:**	
Sample Age:	8h	**Client:**	Patriot Beverages		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	>100	n/a		8.81%

Dunnett Multiple Comparison Test

Control vs	Conc-gm/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water	6.25	-0.9717	2.448	0.037	6	CDF	0.9862	Non-Significant Effect
	12.5	-2.322	2.448	0.037	6	CDF	0.9998	Non-Significant Effect
	25	-3.788	2.448	0.037	6	CDF	1.0000	Non-Significant Effect
	50	-6.028	2.448	0.037	6	CDF	1.0000	Non-Significant Effect
	91	-0.593	2.448	0.037	6	CDF	0.9616	Non-Significant Effect
	100	-4.249	2.448	0.037	6	CDF	1.0000	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.4217	0.25	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0270873	0.0045145	6	9.797	3.4E-05	Significant Effect
Error	0.0096769	0.0004608	21			
Total	0.0367641		27			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	9.411	16.81	0.1518	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9593	0.8975	0.3353	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.4217	0.3805	0.463	0.426	0.388	0.447	0.01295	6.14%	0.00%
6.25		4	0.4365	0.4181	0.4549	0.437	0.422	0.45	0.005781	2.65%	-3.50%
12.5		4	0.457	0.4127	0.5013	0.457	0.423	0.491	0.01393	6.10%	-8.36%
25		4	0.4792	0.4364	0.5221	0.4735	0.453	0.517	0.01348	5.63%	-13.63%
50		4	0.5132	0.4762	0.5503	0.52	0.482	0.531	0.01164	4.53%	-21.70%
91		4	0.4308	0.4004	0.4611	0.423	0.418	0.459	0.009526	4.42%	-2.13%
100		4	0.4863	0.4805	0.492	0.4855	0.483	0.491	0.001797	0.74%	-15.29%

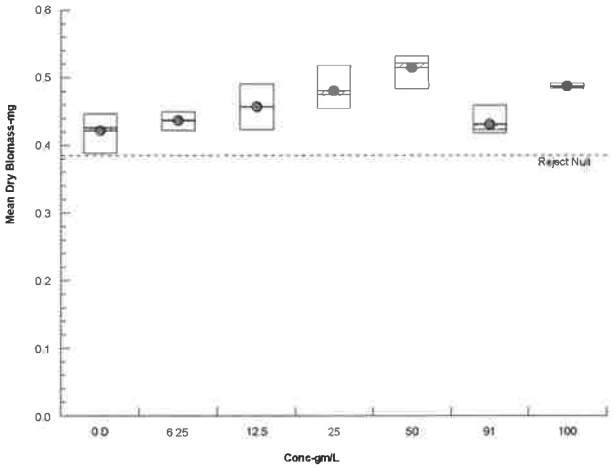
Mean Dry Biomass-mg Detail

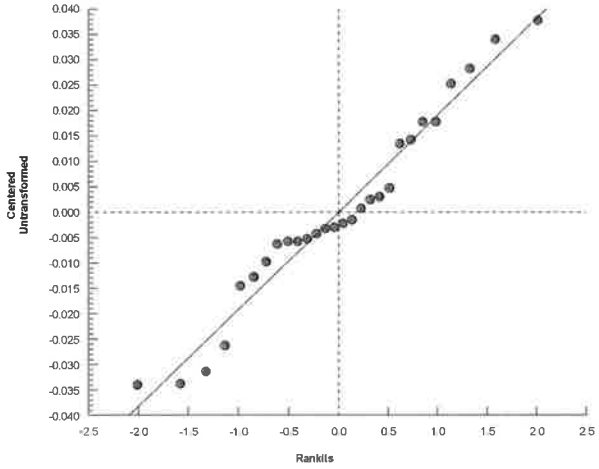
Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.447	0.388	0.436	0.416
6.25		0.45	0.422	0.439	0.435
12.5		0.46	0.423	0.454	0.491
25		0.517	0.453	0.473	0.474
50		0.531	0.482	0.531	0.509
91		0.421	0.418	0.459	0.425
100		0.487	0.484	0.483	0.491

Fathead Minnow 7-d Larval Survival and Growth Test | **New England Bioassay**

Analysis ID:	07-5931-5340	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	25 Jul-18 16:04	**Analysis:**	Parametric-Control vs Treatments	**Status Level:**	1

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	05-3564-4015	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	25 Jul-18 16:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1
Batch ID:	12-6100-1644	**Test Type:**	Growth-Survival (7d)	**Analyst:**	
Start Date:	09 Jul-18 14:19	**Protocol:**	EPA/821/R-02-013 (2002)	**Diluent:**	Receiving Water
Ending Date:	16 Jul-18 14:20	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Test Length:	7d 0h	**Taxon:**	Actinopterygii	**Source:**	In-House Culture **Age:** <24
Sample ID:	18-6075-9336	**Code:**	6EE8EF28	**Project:**	
Sample Date:	09 Jul-18 06:30	**Material:**	Industrial Effluent	**Source:**	Patriot Beverages (MA0004936)
Receipt Date:	09 Jul-18 13:15	**CAS (PC):**		**Station:**	
Sample Age:	8h	**Client:**	Patriot Beverages		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	717482	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits			
Attribute	**Test Stat**	**Lower**	**Upper**	**Overlap**	**Decision**
Control Resp	0.4217	0.25	>>	Yes	Passes Criteria

Point Estimates

Level	gm/L	95% LCL	95% UCL
IC25	>100	n/a	n/a
IC50	>100	n/a	n/a

Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-gm/L	**Code**	**Count**	**Mean**	**Min**	**Max**	**Std Dev**	**CV%**	**%Effect**	**Mean**	**%Effect**
0	D	4	0.4217	0.388	0.447	0.0259	6.14%	0.0%	0.4615	0.0%
6.25		4	0.4365	0.422	0.45	0.01156	2.65%	-3.5%	0.4615	0.0%
12.5		4	0.457	0.423	0.491	0.02787	6.10%	-8.36%	0.4615	0.0%
25		4	0.4792	0.453	0.517	0.02696	5.63%	-13.63%	0.4615	0.0%
50		4	0.5132	0.482	0.531	0.02327	4.54%	-21.7%	0.4615	0.0%
91		4	0.4308	0.418	0.459	0.01905	4.42%	-2.13%	0.4585	0.66%
100		4	0.4863	0.483	0.491	0.003595	0.74%	-15.29%	0.4585	0.66%

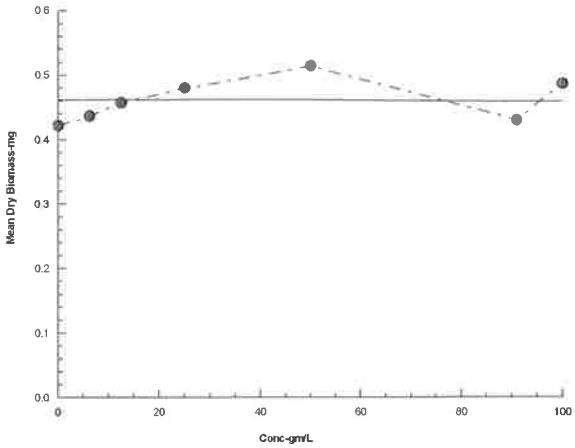
Mean Dry Biomass-mg Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.447	0.388	0.436	0.416
6.25		0.45	0.422	0.439	0.435
12.5		0.46	0.423	0.454	0.491
25		0.517	0.453	0.473	0.474
50		0.531	0.482	0.531	0.509
91		0.421	0.418	0.459	0.425
100		0.487	0.484	0.483	0.491

Fathead Minnow 7-d Larval Survival and Growth Test — **New England Bioassay**

Analysis ID:	05-3564-4015	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.4
Analyzed:	25 Jul-18 16:05	**Analysis:**	Linear Interpolation (ICPIN)	**Status Level:**	1

Graphics



NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Patriot Beverages, 20 Harvard Road, Littleton MA 01460							
NEB PROJECT NUMBER:	05.0044697.00			TEST ORGANISM			*Pimephales promelas*	
DILUTION WATER SOURCE:	Soft Synthetic Lab Water			START DATE:			7/9/18 TIME:	1419
ANALYST	MM	TBP	TBP	MM	CW	TBP	MM	
NEB Lab Synthetic Diluent	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	25.9	26.0	25.3	26.0	26.0	26.0	
D.O. mg/L Initial	8.1	8.1	8.0	8.3	8.2	8.2	8.1	
pH s.u. Initial	7.5	7.8	7.6	7.5	7.2	7.8	7.7	
Conductivity µS Initial	174	174	176	174	175	174	174	
Temp °C Final	25.3	25.5	24.9	25.2	25.5	25.6	25.9	
D.O. mg/L Final	7.6	6.7	7.1	7.4	7.2	7.3	6.6	
pH s.u. Final	7.3	7.2	7.2	7.2	7.6	7.0	7.7	
Conductivity µS Final	191	209	201	206	198	192	206	
Brook Control	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	25.3	25.9	26.2	26.0	24.9	26.0	
D.O. mg/L Initial	5.5	8.0	7.6	8.1	7.7	7.8	8.7	
pH s.u. Initial	7.1	7.3	7.1	7.2	6.9	7.2	7.1	
Conductivity µS Initial	764	759	906	906	863	856	859	
Temp °C Final	25.2	25.6	24.8	25.0	24.4	25.5	25.8	
D.O. mg/L Final	7.3	6.6	6.9	7.3	6.9	7.2	6.5	
pH s.u. Final	7.0	7.1	7.0	7.1	7.3	6.8	7.6	
Conductivity µS Final	771	804	919	948	893	870	887	
6.25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	25.9	26.0	25.3	26.0	26.0	26.0	
D.O. mg/L Initial	8.1	8.0	8.1	8.2	8.2	8.2	8.1	
pH s.u. Initial	7.8	8.1	8.1	8.1	8.0	8.4	8.4	
Conductivity µS Initial	356	366	373	348	372	385	364	
Temp °C Final	25.6	25.8	24.9	25.4	24.9	25.6	26.0	
D.O. mg/L Final	7.4	7.0	7.4	7.4	7.0	7.1	6.5	
pH s.u. Final	7.9	7.9	7.9	7.8	7.8	7.5	7.9	
Conductivity µS Final	368	387	394	380	403	398	395	
12.5%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	26.0	25.9	26.0	25.3	25.8	26.0	26.0	
D.O. mg/L Initial	8.0	8.0	8.0	8.3	8.2	8.2	8.2	
pH s.u. Initial	8.0	8.1	8.2	8.3	8.2	8.5	8.5	
Conductivity µS Initial	485	494	511	497	519	525	528	
Temp °C Final	25.2	25.6	24.7	25.1	24.8	25.5	25.9	
D.O. mg/L Final	7.4	7.0	7.4	7.5	7.3	7.1	6.7	
pH s.u. Final	8.1	8.1	8.2	8.2	8.3	8.0	8.3	
Conductivity µS Final	499	519	536	522	544	539	560	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:	Patriot Beverages, 20 Harvard Road, Littleton MA 01460							
NEB PROJECT NUMBER:	05.0044697.00			TEST ORGANISM			*Pimephales promelas*	
DILUTION WATER SOURCE:	Soft Synthetic Lab Water			START DATE:			7/9/18 TIME:	1419
25%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.9	25.8	26.0	25.3	25.7	26.0	26.0	
D.O. mg/L Initial	7.7	8.0	8.1	8.3	8.3	8.3	8.3	
pH s.u. Initial	8.1	8.2	8.4	8.4	8.4	8.6	8.6	
Conductivity µS Initial	816	808	852	823	870	859	862	
Temp °C Final	25.3	25.6	24.6	25.0	24.9	25.5	25.9	
D.O. mg/L Final	7.3	7.0	7.4	7.4	7.3	7.1	6.7	
pH s.u. Final	8.4	8.4	8.5	8.5	8.5	8.5	8.6	
Conductivity µS Final	825	845	882	872	903	874	894	
50%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.5	25.9	26.0	25.4	25.4	26.0	26.0	
D.O. mg/L Initial	7.3	8.0	8.3	8.3	8.3	8.3	8.4	
pH s.u. Initial	8.1	8.2	8.4	8.5	8.5	8.6	8.6	
Conductivity µS Initial	1,434	1,432	1,463	1,463	1,538	1,529	1,529	
Temp °C Final	25.1	25.6	24.6	25.0	24.9	25.5	25.8	
D.O. mg/L Final	7.3	7.0	7.4	7.3	7.1	7.0	6.6	
pH s.u. Final	8.5	8.6	8.6	8.7	8.7	8.7	8.8	
Conductivity µS Final	1,432	1,472	1,501	1,520	1,566	1,538	1,560	
91%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	25.1	26.0	25.2	24.2	26.0	26.0	
D.O. mg/L Initial	6.4	7.7	8.7	8.5	8.7	8.5	8.9	
pH s.u. Initial	8.1	8.2	8.5	8.5	8.5	8.6	8.6	
Conductivity µS Initial	2,392	2,376	2,431	2,430	2,500	2,599	2,568	
Temp °C Final	25.1	25.5	24.7	25.0	24.8	25.5	25.8	
D.O. mg/L Final	6.8	6.9	7.2	7.2	7.0	6.9	6.5	
pH s.u. Final	8.5	8.5	8.6	8.7	8.8	8.8	8.8	
Conductivity µS Final	2,374	2,369	2,444	2,476	2,509	2,582	2,582	
100%	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	25.0	26.0	25.4	24.1	26.0	26.0	
D.O. mg/L Initial	5.4	7.6	9.1	8.8	9.0	9.3	9.5	
pH s.u. Initial	8.1	8.2	8.4	8.5	8.6	8.6	8.6	
Conductivity µS Initial	2,623	2,615	2,663	2,661	2,840	2,837	2,830	
Temp °C Final	25.2	25.5	24.8	25.2	24.9	25.4	25.9	
D.O. mg/L Final	6.6	6.8	6.9	6.9	6.7	6.7	6.1	
pH s.u. Final	8.5	8.5	8.6	8.7	8.8	8.8	8.8	
Conductivity µS Final	2,566	2,592	2,656	2,696	2,829	2,825	2,838	

Table of Random Permutations of 16

P.promelas Test ID# 18-966

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3	1	4	5	14	13	3	14	9	13	13	2	9	15	6	2	8	4	5	8
11	8	16	14	15	6	2	6	2	16	8	5	12	3	9	13	4	3	10	4
14	9	1	6	3	9	14	13	8	6	5	8	14	7	3	15	13	11	4	7
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6	14	6	10	4	14	4	15	3	3	4	16	2	6	5	1	12	10	6	9
10	15	2	1	13	12	16	3	4	8	10	1	15	5	14	12	14	12	3	2
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16	2	11	8	8	8	15	5	16	1	1	9	8	1	8	14	16	5	13	5
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8	11	9	4	11	3	12	7	7	10	12	14	3	10	1	6	15	16	15	12
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5	4	3	9	12	1	6	1	15	11	2	6	4	11	2	11	3	7	11	16
				Conc				Reps											
11	8	16	5	5	13	1	13	2	16	14	12	9	8	7	5	13	3	13	3
2	2	8	8	14	16	4	3	8	11	10	14	15	1	2	11	4	5	15	9
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14	12	4	16	16	11	14	10	5	12	3	3	12	14	15	13	6	4	1	16
8	6	3	9	4	10	6	4	16	2	2	9	8	16	4	6	5	15	7	8
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3	10	11	12	13	12	5	11	7	8	9	5	14	11	10	1	3	13	3	5
16	1	13	14	8	14	15	5	3	7	11	15	6	12	5	7	11	1	14	4
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7	9	7	7	11	1	7	16	13	1	13	2	4	2	1	2	12	2	10	14
13	16	9	1	1	8	10	9	9	4	1	16	2	3	8	14	1	10	6	10
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9	15	11	3	11	15	9	10	1	3	8	2	15	7	9	8	16	1	14	3
10	16	4	5	12	9	16	11	7	1	7	16	11	8	3	3	12	2	3	4
4	14	1	9	5	5	4	13	6	8	15	5	12	5	7	16	5	11	8	1
7	3	13	14	15	2	1	14	16	5	14	9	2	16	1	12	6	14	4	13
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6	4	15	8	16	10	14	16	9	6	12	3	10	6	14	7	2	12	16	7
5	8	12	15	7	3	12	5	12	9	5	15	1	13	15	13	15	5	1	2
13	4	10	4	16	13	16	13	5	3	6	14	1	16	8	7	2	3	3	12
5	14	4	6	8	2	15	1	13	14	16	4	15	4	3	12	12	1	4	7
2	2	2	15	14	16	9	12	16	6	10	15	14	9	10	1	14	8	8	16
7	12	15	8	12	3	5	14	7	12	5	13	16	1	7	5	11	2	9	3
6	9	7	14	9	14	10	11	15	11	12	1	12	12	14	16	3	11	11	8
14	5	16	7	10	8	11	8	14	13	7	11	6	3	11	4	4	6	6	9
15	11	8	9	7	12	8	7	1	15	9	3	3	7	13	11	10	4	5	1
11	6	6	1	4	1	3	16	12	5	4	9	13	13	6	8	15	9	1	14
4	10	3	16	2	11	7	9	6	9	1	8	4	11	5	2	16	10	12	4
1	8	1	13	1	15	4	4	11	4	2	16	5	8	1	9	5	12	16	6
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3	3	12	11	5	9	6	6	3	10	13	12	9	6	2	15	7	15	7	13
10	15	11	5	13	7	12	5	2	7	11	5	10	15	12	3	1	13	13	10
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15	6	9	16	2	2
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15

CHEMICAL ANALYSIS

Please note the subcontract laboratory has its own QAQC and data review processes, and therefore New England Bioassay does not review the analytical results we receive.

PHOENIX
Environmental Laboratories, Inc.

Monday, July 16, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGE
Sample ID#s: CA85961 - CA85964

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone (860) 645-1102 Fax (860) 645-0823

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 16, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/09/18	6:30
Location Code:	NEB	Received by:	LB	07/09/18	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA85961
Phoenix ID: CA85961

Project ID: PATRIOT BEVERAGE
Client ID: EFFLUENT 1 C38-2609

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Aluminum	0.059	0.005	mg/L	1	07/11/18	EK	E200.7	
Cadmium	< 0.0001	0.0001	mg/L	1	07/10/18	RS	SM3113B	
Copper	0.0017	0.0010	mg/L	1	07/11/18	EK	E200.7	
Hardness (CaCO3)	126	0.1	mg/L	1	07/12/18		E200.7	
Nickel	0.024	0.001	mg/L	1	07/11/18	EK	E200.7	
Lead	< 0.0003	0.0003	mg/L	1	07/10/18	RS	SM3113B	
Zinc	0.011	0.001	mg/L	1	07/11/18	EK	E200.7	B*
Alkalinity-CaCO3	1160	5.00	mg/L	1	07/10/18	RR/EG	SM2320B-11	
Conductivity	2580	5.00	umhos/cm	1	07/10/18	RR/EG	SM2510B-11	
Ammonia as Nitrogen	0.73	0.10	mg/L	2	07/12/18	WHM	E350.1	
Tot. Diss. Solids	1600	20	mg/L	2	07/12/18	DA/KDB	SM2540C-11	
Tot. Org. Carbon	9.08	0.50	mg/L	1	07/10/18	RR/EG	SM5310B-11	
Total Solids	1700	20	mg/L	2	07/10/18	DA/KDB	SM2540B-11	
Total Metals Digestion	Completed				07/10/18	AG		

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 16, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 16, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/09/18	6:30
Location Code:	NEB	Received by:	LB	07/09/18	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA85961
Phoenix ID: CA85962

Project ID: PATRIOT BEVERAGE
Client ID: RECEIVING WATER-1 C38-2610

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Aluminum	0.084	0.005	mg/L	1	07/11/18	EK	E200.7	
Cadmium	< 0.0001	0.0001	mg/L	1	07/10/18	RS	SM3113B	
Copper	0.0029	0.0010	mg/L	1	07/11/18	EK	E200.7	
Hardness (CaCO3)	113	0.1	mg/L	1	07/12/18		E200.7	
Nickel	0.004	0.001	mg/L	1	07/11/18	EK	E200.7	
Lead	< 0.0003	0.0003	mg/L	1	07/10/18	RS	SM3113B	
Zinc	0.006	0.001	mg/L	1	07/11/18	EK	E200.7	B*
Alkalinity-CaCO3	1200	5.00	mg/L	1	07/10/18	RR/EG	SM2320B-11	
Conductivity	2570	5.00	umhos/cm	1	07/10/18	RR/EG	SM2510B-11	
Ammonia as Nitrogen	0.28	0.05	mg/L	1	07/12/18	WHM	E350.1	
pH	8.50	1.00	pH Units	1	07/10/18 11:44	RWR	SM4500-H B-11	
Tot. Org. Carbon	9.65	0.50	mg/L	1	07/10/18	RR/EG	SM5310B-11	
Total Metals Digestion	Completed				07/10/18	AG		

Project ID: PATRIOT BEVERAGE
Client ID: RECEIVING WATER-1 C38-2610

Phoenix I.D.: CA85962

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 16, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 16, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/09/18	7:00
Location Code:	NEB	Received by:	LB	07/09/18	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA85961
Phoenix ID: CA85963

Project ID: PATRIOT BEVERAGE
Client ID: EFFLUENT GRAB 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chlorine Residual	0.04	0.02	mg/L	1	07/09/18 19:35	O	SM4500CLG-97
pH	8.51	1.00	pH Units	1	07/10/18 11:47	RWR	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
July 16, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 16, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/09/18	13:25
Location Code:	NEB	Received by:	LB	07/09/18	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA85961
Phoenix ID: CA85964

Project ID: PATRIOT BEVERAGE
Client ID: SRCF LAB WATER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Aluminum	0.011	0.005	mg/L	1	07/11/18	EK	E200.7	
Cadmium	< 0.0001	0.0001	mg/L	1	07/10/18	RS	SM3113B	
Copper	< 0.0010	0.0010	mg/L	1	07/11/18	EK	E200.7	
Hardness (CaCO3)	45.7	0.1	mg/L	1	07/12/18		E200.7	
Nickel	< 0.001	0.001	mg/L	1	07/11/18	EK	E200.7	
Lead	< 0.0003	0.0003	mg/L	1	07/10/18	RS	SM3113B	
Zinc	0.002	0.001	mg/L	1	07/11/18	EK	E200.7	B*
Alkalinity-CaCO3	70.9	5.00	mg/L	1	07/10/18	RR/EG	SM2320B-11	
Conductivity	181	5.00	umhos/cm	1	07/10/18	RR/EG	SM2510B-11	
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	07/12/18	WHM	E350.1	
pH	7.84	1.00	pH Units	1	07/10/18 11:51	RWR	SM4500-H B-11	
Tot. Org. Carbon	< 0.50	0.50	mg/L	1	07/10/18	RR/EG	SM5310B-11	
Total Metals Digestion	Completed				07/10/18	AG		

Project ID: PATRIOT BEVERAGE
Client ID: SRCF LAB WATER

Phoenix I.D.: CA85964

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.
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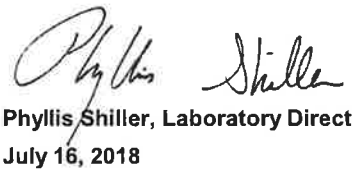


Phyllis Shiller, Laboratory Director
July 16, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 16, 2018

QA/QC Data

SDG I.D.: GCA85961

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 437861 (mg/L), QC Sample No: CA84774 (CA85961, CA85962, CA85964)													
Cadmium - Water	BRL	0.0001	<0.0004	<0.0004	NC	102			94.0			75 - 125	20
Lead (Furnace) - Water	BRL	0.001	<0.0003	<0.001	NC	104			106			75 - 125	30
QA/QC Batch 437981 (mg/L), QC Sample No: CA85650 (CA85961)													
ICP Metals - Aqueous													
Aluminum	BRL	0.0050	0.066	0.0694	5.00	93.7			101			75 - 125	20
Copper	BRL	0.0025	0.011	0.0094	NC	93.5			101			75 - 125	20
Nickel	BRL	0.0005	0.009	0.0085	5.70	90.8			93.1			75 - 125	20
Zinc	0.0015	0.0010	0.018	0.0174	3.40	90.8			98.1			75 - 125	20
QA/QC Batch 437982 (mg/L), QC Sample No: CA85977 (CA85962, CA85964)													
ICP Metals - Aqueous													
Aluminum	BRL	0.0050	0.034	0.0337	0.90	95.9			100			75 - 125	20
Copper	BRL	0.0025	0.0033	<0.0025	NC	96.5			99.9			75 - 125	20
Nickel	BRL	0.0005	<0.001	<0.0005	NC	94.5			94.9			75 - 125	20
Zinc	0.0016	0.0010	0.004	0.0030	NC	95.1			96.8			75 - 125	20

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 16, 2018

QA/QC Data

SDG I.D.: GCA85961

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 437947 (mg/L), QC Sample No: CA79737 (CA85961)													
Total Solids	BRL	10	97	97	0	100						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438446 (mg/L), QC Sample No: CA85466 (CA85961)													
Tot. Diss. Solids	BRL	10	<10	<10	NC	99.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438003 (mg/L), QC Sample No: CA85490 (CA85961, CA85962, CA85964)													
Alkalinity-CaCO3	BRL	5.00	46	46	NC	107						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438184 (mg/L), QC Sample No: CA85490 (CA85961, CA85962, CA85964)													
Alkalinity-CaCO3	BRL	5.00	46	46	NC	107						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 437886 (mg/L), QC Sample No: CA85490 (CA85963)													
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	107							
QA/QC Batch 438013 (umhos/cm), QC Sample No: CA85490 (CA85961, CA85962, CA85964)													
Conductivity	BRL	5.00	1020	1020	0	99.2						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438202 (umhos/cm), QC Sample No: CA85490 (CA85961, CA85962, CA85964)													
Conductivity	BRL	5.00	1020	1020	0	99.2						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 437998 (pH), QC Sample No: CA85490 (CA85962, CA85963, CA85964)													
pH			7.50	7.53	0.40	98.5						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438116 (mg/L), QC Sample No: CA85600 (CA85961, CA85962, CA85964)													
Total Organic Carbon	BRL	1.0	8.2	8.4	2.40	101			104			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438143 (mg/L), QC Sample No: CA85961 (CA85961, CA85962, CA85964)													
Ammonia as Nitrogen	BRL	0.05	0.73	0.73	0	99.7			97.9			90 - 110	20

QA/QC Data

SDG I.D.: GCA85961

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 16, 2018

Monday, July 16, 2018

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCA85961 - NEB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

July 16, 2018 SDG I.D.: GCA85961

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

NC | IP

CHAIN OF CUSTODY RECORD

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 3.1 ° Pg ___ of ___

Data Delivery (check one):
☐ Fax #: ___
☒ Email: kimberly.wills@gza.com
Format: ☐ Excel ☐ Pdf ☐ Gis Key

Customer: New England Bioassay
Address: 77 Batson Drive
Manchester, CT 06042

Project: Patriot Beverages (MA)
Report to: Kim Wills
Invoice to: Kim Wills

Project P.O: 22267
Phone #: 860-643-9560
Fax #: 860-646-7169

Client Sample - Information - Identification

Sampler's Signature ___ Date ___

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Hardness (0.5 mg/L)	Alkalinity (2.0 mg/L)	Specific Conductance (-)	Total Solids (-)	Total Dissolved Solids (-)	Ammonia (0.1 mg/L)	Total Organic Carbon (0.5 mg/L)	Cd (AA), Pb (AA), Cu, Zn, Ni, Al	Total Residual Chlorine (0.02 mg/L)	pH (-)	Soil VOA Vials [ ] methanol [ ] Sod Bisulfate	GL Soil container ( ) oz	PL As Is 250 ml	PL 120ml As Is	GL Amber ~~1000ml~~ 8oz [ ] As is [X] ~~H2SO4~~ H3PO4	PL As Is [X] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 1000ml	PL HNO3 [X] 250ml [ ] 1000ml	PL NaOH 250ml	Bacteria Bottle
859661	Effluent-1 C38-2609	WW	7/8/18- 7/9/18	0700- 0630	X	X	X	X	X	X	X	X							1	1	1	1		
859662	Receiving Water-1 C38-2610	O	7/9/18	0638	X	X	X			X	X	X		X					1	1	1	1		
859663	Effluent grab-1	WW	7/9/18	0700									X	X			1							
859664	SRCF lab water	O	7/9/18	1325	X	X	X			X	X	X		X					1	1	1	1		

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	7/9/18	1610
[signature]	[signature]	7/9/18	1635

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* Surcharge Applies

Requirements for CT
☐ Res. Criteria
☐ GW Protection
☐ GA Mobility
☐ GB Mobility
☐ SW Protection
☐ Res. Vol.
☐ Ind. Vol.

Requirements for MA
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MCP Certification
☐ Other

Comments, Special Requirements or Regulations:

Please see detection limits (MLs) listed next to each parameter above. Metals MLs are listed below:

Cd - 0.0005 mg/L; Pb - 0.0005 mg/L; Cu - 0.003 mg/L; Zn - 0.005 mg/L; Ni - 0.005 mg/L; Al - 0.02 mg/L

Please CC: Melanie.Cruff@gza.com and Robin.Faulk@gza.com on reports

PHOENIX
Environmental Laboratories, Inc.

Wednesday, July 18, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGES MA
Sample ID#s: CA87630 - CA87632

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 18, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/11/18	7:00
Location Code:	NEB	Received by:	SW	07/11/18	16:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA87630
Phoenix ID: CA87630

Project ID: PATRIOT BEVERAGES MA
Client ID: EFFLUENT-2 C38-2652

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.57	0.05	mg/L	1	07/17/18	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 18, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 18, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/11/18	7:30
Location Code:	NEB	Received by:	SW	07/11/18	16:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA87630
Phoenix ID: CA87631

Project ID: PATRIOT BEVERAGES MA
Client ID: RECEIVING WATER-2 C38-2653

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.26	0.05	mg/L	1	07/17/18	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 18, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 18, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/11/18	7:00
Location Code:	NEB	Received by:	SW	07/11/18	16:30
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA87630
Phoenix ID: CA87632

Project ID: PATRIOT BEVERAGES MA
Client ID: EFFLUENT GRAB-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chlorine Residual	0.05	0.02	mg/L	1	07/11/18 20:33	O	SM4500CLG-97
pH	8.75	1.00	pH Units	1	07/11/18 21:35	RR/EG	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
July 18, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 18, 2018

QA/QC Data

SDG I.D.: GCA87630

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 438371 (mg/L), QC Sample No: CA87176 (CA87632)													
Chlorine Residual	BRL	0.02	0.34	0.33	3.00	114							
QA/QC Batch 438466 (pH), QC Sample No: CA87588 (CA87632)													
pH				12.14		98.9						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 438864 (mg/L), QC Sample No: CA87610 (CA87630, CA87631)													
Ammonia as Nitrogen	BRL	0.05	0.14	0.13	NC	92.5			94.6			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 18, 2018

Wednesday, July 18, 2018

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCA87630 - NEB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Comments

July 18, 2018 SDG I.D.: GCA87630

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCTP

CHAIN OF CUSTODY RECORD

Temp 3 | Pg of

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery (check one):
☐ Fax #:
☒ Email: kimberly.wills@gza.com
Format: ☐ Excel ☐ Pdf ☐ Gis Key

Customer: New England Bioassay
Address: 77 Batson Drive
Manchester, CT 06042

Project: Patriot Beverages (MA)
Report to: Kim Wills
Invoice to: Kim Wills

Project P.O: 22267
Phone #: 860-643-9560
Fax #: 860-646-7169

Client Sample - Information - Identification

Sampler's Signature _____ Date _____

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=other
GW=groundwater **SL**=sludge **A**=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia (0.1 mg/L)	pH (-)	Total Residual Chlorine (0.02 mg/L)	Soil VOA Vials [ ] methanol [ ] Sod Bisulfate	GL Soil container ( ) oz	PL As is 250 ml	PL As is 120ml	GL Amber 250ml [ ] As is [ ] H2SO4	PL As is 1000ml	PL H2SO4 [X] 250ml [ ] 1000ml	PL HNO3 [ ] 250ml [ ] 1000ml	PL NaOH 250ml	Bacteria Bottle
87030	Effluent-2 C38-2652	WW	7/10-7/11/18	0700-0700	X								1				
87031	Receiving Water-2 C38-2653	O	7/11/18	0730	X								1				
87032	Effluent Grab - 2		7/11/18	0700		X	X			1							

Relinquished by:	Accepted by:	Date:	Time:
		7-11-18	1605
		7-11-18	1630

Comments, Special Requirements or Regulations:

Please see detection limits (MLs) listed next to each parameter above

Please CC: Melanie.Cruff@gza.com and Robin.Faulk@gza.com on reports

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* Surcharge Applies

Requirements for CT
☐ Res. Criteria
☐ GW Protection
☐ GA Mobility
☐ GB Mobility
☐ SW Protection
☐ Res. Vol.
☐ Ind. Vol.

Requirements for MA
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MCP Certification
☐ Other

PHOENIX
Environmental Laboratories, Inc.

Thursday, July 19, 2018

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: PATRIOT BEVERAGES
Sample ID#s: CA89679 - CA89681

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 19, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/13/18	6:45
Location Code:	NEB	Received by:	SW	07/13/18	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA89679
Phoenix ID: CA89679

Project ID: PATRIOT BEVERAGES
Client ID: EFFLUENT-3 C38-2716

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.50	0.05	mg/L	1	07/18/18	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 19, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 19, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/13/18	6:30
Location Code:	NEB	Received by:	SW	07/13/18	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA89679
Phoenix ID: CA89680

Project ID: PATRIOT BEVERAGES
Client ID: RECEIVING WATER-3 C38-2717

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.34	0.05	mg/L	1	07/18/18	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
July 19, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 19, 2018

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		07/13/18	6:45
Location Code:	NEB	Received by:	SW	07/13/18	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	22267				

Laboratory Data

SDG ID: GCA89679
Phoenix ID: CA89681

Project ID: PATRIOT BEVERAGES
Client ID: EFFLUENT GRAB-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chlorine Residual	0.03	0.02	mg/L	1	07/13/18 20:13	O	SM4500CLG-97
pH	8.82	1.00	pH Units	1	07/14/18 02:42	RR/EG	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If there are any questions regarding this data, please call Phoenix Client Services.

Phyllis Shiller, Laboratory Director
July 19, 2018
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 19, 2018

QA/QC Data

SDG I.D.: GCA89679

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 439013 (mg/L), QC Sample No: CA89229 (CA89679, CA89680)													
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	94.7			95.0			90 - 110	20
QA/QC Batch 438755 (mg/L), QC Sample No: CA89407 (CA89681)													
Chlorine Residual	BRL	0.02	<0.01	<0.02	NC	114							
QA/QC Batch 438798 (pH), QC Sample No: CA89936 (CA89681)													
pH			7.07	7.06	0.10	99.0						85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 19, 2018

Thursday, July 19, 2018

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCA89679 - NEB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Analysis Comments

July 19, 2018 SDG I.D.: GCA89679

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

WCTP

CHAIN OF CUSTODY RECORD

Temp 2.1 Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery (check one):
☐ Fax #:
☒ Email: kimberly.wills@gza.com
Format: ☐ Excel ☐ Pdf ☐ Gis Key

Customer: New England Bioassay
Address: 77 Batson Drive
Manchester, CT 06042

Project: Patriot Beverages (MA) Project P.O: 222607
Report to: Kim Wills Phone #: 860-643-9560
Invoice to: Kim Wills Fax #: 860-646-7169

Client Sample - Information - Identification

Sampler's Signature _____ Date _____

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=other
GW=groundwater **SL**=sludge **A**=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia (0.1 mg/L)	pH (–)	Total Residual Chlorine (0.02 mg/L)	Soil VOA Vials [ ] methanol [ ] Sod Bisulfate	GL Soil container ( ) oz	PL As is 250 ml	PL As is 120ml	GL Amber 250ml [ ] As is [ ] H2SO4	PL As is 1000ml	PL H2SO4 [X] 250ml [ ] 1000ml	PL HNO3 [ ] 250ml [ ] 1000ml	PL NaOH 250ml	Bacteria Bottle
891079	Effluent-3 C38-2716	WW	7/12-7/13/18	0700-0645	X								1				
891080	Receiving Water-3 C38-2717	O	7/13/18	0630	X								1				
891081	Effluent Grab - 3		7/13/18	0645		X	X			1							

Relinquished by:	Accepted by:	Date:	Time:
		7-13-18	1445
		7-13-18	155

Comments, Special Requirements or Regulations:

Please see detection limits (MLs) listed next to each parameter above

Please CC: Melanie.Cruff@gza.com and Robin.Faulk@gza.com on reports

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* Surcharge Applies

Requirements for CT
☐ Res. Criteria
☐ GW Protection
☐ GA Mobility
☐ GB Mobility
☐ SW Protection
☐ Res. Vol.
☐ Ind. Vol.

Requirements for MA
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MCP Certification
☐ Other

SAMPLE RECEIPT CHEMISTRY
&
CHAIN OF CUSTODY DOCUMENTS

NEW ENGLAND BIOASSAY - INITIAL CHEMISTRY DATA

PERMITTEE: Patriot Beverages

NEB JOB # 05.0044697.00

DATE RECEIVED	7/9/18		7/11/18		7/13/18	
SAMPLE TYPE:	EFF #1	BROOK #1	EFF #2	BROOK #2	EFF #3	BROOK #3
COC #	C38-2609	C38-2610	C38-2652	C38-2653	C38-2716	C38-2717
pH (SU)	8.1	7.1	8.5	7.0	8.7	7.0
Temperature (^{0}C)	15.3	12.6	6.3	5.4	8.0	7.1
Dissolved Oxygen (mg/L)	6.1	6.0	9.0	8.1	8.9	6.3
Conductivity (µmhos)	2,597	758	2,663	909	2,857	868
Salinity (ppt)	1	<1	1	<1	2	<1
TRC - DPD (mg/L)	0.051	0.387	0.043	0.107	0.036	0.023
TRC - Amperometric (mg/L)	< 0.05	< 0.05	NA	< 0.05	NA	NA
Hardness (mg/L as $CaCO_3$)	125	132	68	126	62	120
Alkalinity (mg/l as $CaCO_3$)	1,175	65	1,185	65	1,235	65
Tech Initials	TBP/DD	TBP/DD	CB	CB	DD	DD

NOTE: NA = NOT APPLICABLE

Data Reviewed By: _____ Date Reviewed: 8/2/18

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

Sample Set # 1

EFFLUENT

Sampler: OUTFALL 001 Jim Drapeau

Title: Chief Operator

Facility: Patriot Beverages

Sampling Method: X Composite

Sample ID: OUTFALL 001

Start Date: 7/8/18 Time: 0700

End Date: 7/9/18 Time: 0630

Sampling Method: X **Grab** (for pH and TRC only X)

Date Collected: 7/9/18

Time Collected: 0630

RECEIVING WATER

Sampler: Jim Drapeau

Title: Chief Operator

Facility: Patriot Beverages

Sampling Method: X Grab

Sample ID: Reedy Meadow Brook

Date Collected: 7/9/18

Time Collected: 0800

Sample Type:

- ______ Prechlorinated
- ______ Dechlorinated
- X Unchlorinated
- ______ Chlorinated

Received ON ICE

Effluent Sampling Location and Procedures:

Receiving Water Sampling Location and Procedures:

Requested Analysis: X Chronic and modified acute

Sample Shipment

Method of Shipment: NEB Courier

Relinquished By: [signature]	Date: 7/9/18	Time: 9:28
Received By: [signature]	Date: 7/9/18	Time: 9:28
Rel by: [signature]	Date: 7/9/18	Time: 12:20
Rec'd Tony for Ben Pusee	7/9/18	1315

Optional Information

Purchase Order # to reference on invoice: ______

FOR NEB USE ONLY

*** Please return all ice packs NEB has provided to insure accurate temperature upon receipt to the NEB laboratory.**

Temperature of Effluent Upon Receipt at Lab: 15.3 °C

Temperature of Receiving Water Upon Receipt at Lab: 12.6 °C

Effluent COC# C38-2609

Receiving Water COC# C38-2610

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

Sample Set #2

EFFLUENT

Sampler: James Drapeau
Title: Chief Operator
Facility: Patriot Beverages

Sampling Method: X **Composite**
Sample ID: OUTFALL 001
Start Date: 7/10/11 Time: 0700
End Date: 7/11/11 Time: 0700

Sampling Method: X **Grab** (for pH and TRC only X)
Date Collected: 7/11/18
Time Collected: 0700

Sample Type:
____ Prechlorinated
____ Dechlorinated
X Unchlorinated
____ Chlorinated

RECEIVING WATER

Sampler: James Drapeau
Title: Chief Operator
Facility: Patriot Beverages

Sampling Method: X Grab
Sample ID: Reedy Meadow Brook
Date Collected: 7/11/18
Time Collected: 0720

Effluent Sampling Location and Procedures:

Receiving Water Sampling Location and Procedures:

Requested Analysis: X Chronic and modified acute

Sample Shipment

Method of Shipment: NEB Courier

Relinquished By: [signature] Date: 7/11/18 Time: 9:39
Received By: [signature] Date: 7/11/18 Time: 9:39
Rel by: [signature] 7/11/18 12:11
Rec by (NEB) [signature] Optional Information 7/11/18 1211

Purchase Order # to reference on invoice:

Received
ON ICE

FOR NEB USE ONLY

*** Please return all ice packs NEB has provided to insure accurate temperature upon receipt to the NEB laboratory.**

Temperature of Effluent Upon Receipt at Lab: 6.3 °C
Temperature of Receiving Water Upon Receipt at Lab: 5.4 °C

Effluent COC# C38-2652
Receiving Water COC# C38-2653

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

Sample Set #3

EFFLUENT

Sampler: Jim DRAPEAU
Title: CHIEF OPERATOR
Facility: Patriot Beverages

Sampling Method: X **Composite**
Sample ID: OUTFALL 001
Start Date: 7/12/18 Time: 0700
End Date: 7/13/18 Time: 0645

Sampling Method: X **Grab** (for pH and TRC only X)
Date Collected: 7/13/18
Time Collected: 0645

Sample Type:
_____ Prechlorinated
_____ Dechlorinated
X Unchlorinated
_____ Chlorinated

RECEIVING WATER

Sampler: Jim DRAPEAU
Title: CHIEF OPERATOR
Facility: Patriot Beverages

Sampling Method: X Grab
Sample ID: Reedy Meadow Brook
Date Collected: 7/13/18
Time Collected: 0630

Effluent Sampling Location and Procedures:

Receiving Water Sampling Location and Procedures:

Requested Analysis: X Chronic and modified acute

Sample Shipment

Method of Shipment: NEB Courier

Relinquished By: _____ Date: 7/13/18 Time: 1000
Received By: _____ Date: 7/13/18 Time: 1000
_____ 7/13/18 1130
rec'd by (NEB) _____ Optional Information 7/13/18 1130

Purchase Order # to reference on invoice: _____

Received
ON ICE

FOR NEB USE ONLY

*** Please return all ice packs NEB has provided to insure accurate temperature upon receipt to the NEB laboratory.**

Temperature of Effluent Upon Receipt at Lab: 8.0 °C
Temperature of Receiving Water Upon Receipt at Lab: 7.1 °C

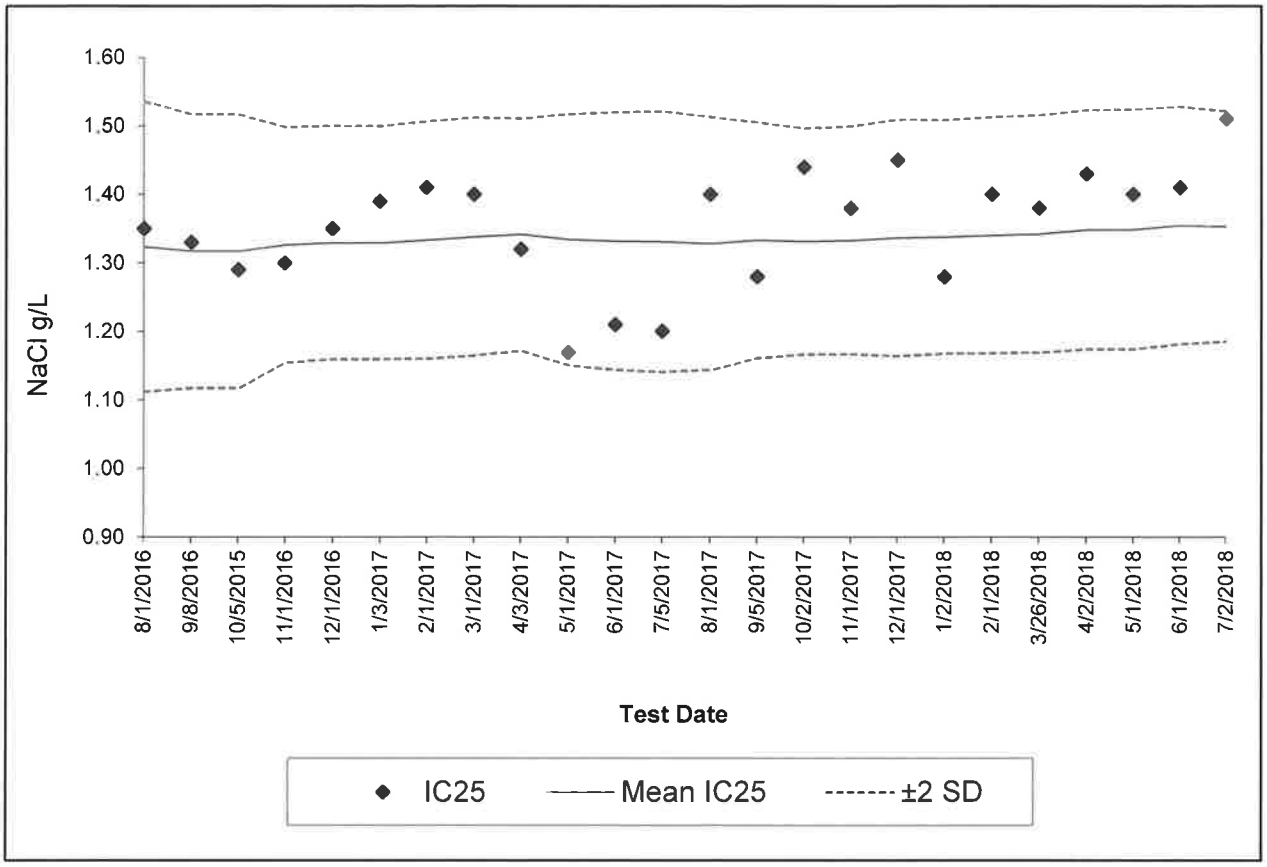
Effluent COC# C38-2716
Receiving Water COC# C38-2717

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY MANCHESTER, CT 06042

REFERENCE TOXICANT CHARTS

New England Bioassay

Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 7-day Chronic Growth IC_{25}



Test ID	Date	IC_{25}	Mean IC_{25}	STD	-2STD	+2STD	Avg. CV	Growth PMSD (%)	Avg. PMSD (%)
16-1064	8/1/2016	1.35	1.32	0.11	1.11	1.54	0.08	13.90	10.36
16-1259	9/8/2016	1.33	1.32	0.10	1.12	1.52	0.08	6.85	9.92
16-1473	10/5/2015	1.29	1.32	0.10	1.12	1.52	0.08	10.54	9.99
16-1593	11/1/2016	1.30	1.33	0.09	1.16	1.50	0.06	6.87	9.68
16-1735	12/1/2016	1.35	1.33	0.09	1.16	1.50	0.06	7.89	9.51
17-15	1/3/2017	1.39	1.33	0.08	1.16	1.50	0.06	6.16	9.24
17-152	2/1/2017	1.41	1.33	0.09	1.16	1.51	0.06	9.65	9.27
17-268	3/1/2017	1.40	1.34	0.09	1.16	1.51	0.06	20.53	10.07
17-481	4/3/2017	1.32	1.34	0.08	1.17	1.51	0.06	7.47	9.90
17-617	5/1/2017	1.17	1.33	0.09	1.15	1.52	0.07	10.74	9.95
17-765	6/1/2017	1.21	1.33	0.09	1.14	1.52	0.07	7.41	9.80
17-973	7/5/2017	1.20	1.33	0.09	1.14	1.52	0.07	10.39	9.83
17-1147	8/1/2017	1.40	1.33	0.09	1.14	1.51	0.07	11.35	9.91
17-1318	9/5/2017	1.28	1.33	0.09	1.16	1.50	0.06	13.74	10.11
17-1522	10/2/2017	1.44	1.33	0.08	1.17	1.50	0.06	10.36	10.12
17-1696	11/1/2017	1.38	1.33	0.08	1.17	1.50	0.06	9.27	10.08
17-1809	12/1/2017	1.45	1.34	0.09	1.16	1.51	0.06	26.17	10.78
18-11	1/2/2018	1.28	1.34	0.09	1.17	1.51	0.06	6.16	10.59
18-184	2/1/2018	1.40	1.34	0.09	1.17	1.51	0.06	10.52	10.51
18-416	3/26/2018	1.38	1.34	0.09	1.17	1.51	0.06	9.14	10.49
18-472	4/2/2018	1.43	1.35	0.09	1.17	1.52	0.06	6.25	10.57
18-608	5/1/2018	1.40	1.35	0.09	1.17	1.52	0.06	11.80	10.88
18-745	6/1/2018	1.41	1.35	0.09	1.18	1.53	0.06	13.87	11.08
18-919	7/2/2018	1.51	1.35	0.08	1.19	1.52	0.06	12.86	10.83

National 75th Percentile and 90th Percentile CV Averages for Fathead Growth IC25 (EPA 833-R-00-003): 0.38 - 0.45
PMSD Upper and Lower Bounds for Fathead Growth (EPA-821-R-02-013): 12% - 30%